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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
MASKULINSKI, MICHAEL C	

ART UNIT	PAPER NUMBER
2113	

DATE MAILED: 10/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/917,522	NEUDECK, ALEXANDER J.	
	Examiner	Art Unit	
	Michael C Maskulinski	2113	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *28-32* is/are allowed.

6)☒ Claim(s) *1-10,15,17-23,33-42 and 46* is/are rejected.

7)☐ Claim(s) *11-14,16,24-27 and 43-45* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Final Office Action

Double Patenting

1. In view of the recent amendments, the objections to claims 5 and 37 under 37 CFR 1.75 have been withdrawn.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-10, 15, 17-23, 33-42, and 46 are rejected under 35 U.S.C. 102(e) as being anticipated by Adams, U.S. Patent 6,401,222 B1.

Referring to claims 1 and 33, in column 7, lines 25-26, Adams discloses that the interposer first tests whether an operation requested is a floppy diskette write operation (detecting whether a floppy disk operation is a write). In column 9, lines 55-61, Adams discloses that on the last byte being transferred, the data byte may be delayed by either activating a higher priority DMA channel or masking the DMA channel of the FDC (masking DMA requests from at least one DMA channel during said write thereby preventing data corruption).

Referring to claims 2 and 34, in column 9, lines 55-61, Adams discloses that on the last byte being transferred, the data byte may be delayed by either activating a higher priority DMA channel or masking the DMA channel of the FDC (said masking DMA requests is only during a portion of said write).

Referring to claims 3 and 35, in column 7, lines 37-48, Adams discloses delaying the DMA transfer of the last byte of the sector transfer (said masking DMA requests is during all of said write).

Referring to claims 4 and 36, in column 7, lines 22-25, Adams discloses that the interposer routine is actually a new or modified device driver that forces certain undetected FDC data corruption conditions to exist (said detecting and said masking is accomplished by said floppy disk driver routine).

Referring to claims 5, 6, 37, and 38, in column 8, lines 59-61, Adams discloses that a timer ISR routine is used for servicing the accelerated interrupt rate of the system clock (said masking is accomplished by a timer interrupt service routine).

Referring to claims 7 and 39, in column 7, lines 34-36, Adams discloses reprogramming the timer to interrupt faster than normal (reprogramming a timer to interrupt at a more rapid rate).

Referring to claims 8 and 40, in column 7, lines 40-41, Adams discloses reading the current byte count (reading a DMA byte count).

Referring to claims 9 and 41, in column 7, lines 37-48, Adams discloses that when a test shows that a current DMA transfer count has reached 0, then the interposer routine delays the DMA transfer of the last byte of the sector transfer (accomplishing said masking after said DMA byte count reaches a threshold).

Referring to claims 10 and 42, in column 7, lines 45-48, Adams discloses that he delay continues until a test determines that the elapsed time is greater than the maximum time required for a data byte to be transferred to the medium (e.g. a low-

density diskette; >32 μSec) (estimating when said write will complete from said DMA byte count).

Referring to claim 15, in column 7, lines 6-17, Adams discloses that the DMA controller manages data transfers between the floppy diskette controller and the main memory device (a floppy disk controller receiving data via DMA accesses under the control of a DMA controller). Further, in column 7, lines 37-48, Adams discloses that the delay continues until a test determines that the elapsed time is greater than the maximum time required for a data byte to be transferred to the medium (wherein said DMA controller ignores at least one DMA request line when an underrun error may occur).

Referring to claim 17, in column 9, lines 55-61, Adams discloses that the last byte being transferred may be delayed (said DMA controller ignores said at least one DMA request line for a transfer of data comprising less than a whole sector).

Referring to claim 18, in column 7, lines 42-45, Adams discloses that when a test shows that a current DMA transfer count has reached 0, then the interposer routine delays the DMA transfer of the last byte of the sector transfer (said DMA controller ignores said at least one DMA request line after a threshold number of bytes have been transferred).

Referring to claim 19, in column 8, lines 26-28, Adams discloses that once the test indicates that the byte counter has reached the last byte, the signal transition from DREQ to DACK may be timed and accordingly delayed (said DMA controller ignores said at least one DMA request line after a first time period has elapsed).

Referring to claim 20, in column 8, lines 26-28, Adams discloses that once the test indicates that the byte counter has reached the last byte, the signal transition from DREQ to DACK may be timed and accordingly delayed (said DMA controller ignores said at least one DMA request line a second time period before a transfer of a last byte).

Referring to claim 21, in column 8, lines 28-30, Adams discloses that the time may be greater than the maximum time required to transfer one data byte (said second time period is based upon an estimate of when said transfer of said last byte will occur).

Referring to claim 22, in column 7, lines 40-45, Adams discloses that the current byte count is read and DMA shadowing begins. When a test shows that a current DMA transfer count has reached 0, then the interposer routine delays the DMA transfer of the last byte of the sector transfer (said estimate is derived by monitoring a DMA byte count).

Referring to claim 23, in column 9, lines 22-25, Adams discloses that it is desirable to have an interrupt (the system clock) that will interrupt close to the end of the sector transfer so that the DREQ to DACK timing may be determined on the last byte of the sector transfer (said estimate is derived by monitoring a system clock).

Referring to claim 46, in column 7, lines 45-48, Adams discloses that he delay continues until a test determines that the elapsed time is greater than the maximum time required for a data byte to be transferred to the medium (e.g. a low-density diskette; >32 μSec) (at least one DMA request line is masked based upon an estimate generated by a means for estimating).

Allowable Subject Matter

4. Claims 28-32 are allowed.

5. The following is a statement of reasons for the indication of allowable subject matter: the prior art does not teach or reasonably suggest means for masking at least one DMA request line when a DMA underrun may occur due to an improperly designed floppy disk controller, wherein said at least one DMA request line has a higher priority than a DMA request line associated with said floppy disk controller.

6. Claims 11-14, 16, 24-27, and 43-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed August 17, 2004 have been fully considered but they are not persuasive.

8. On pages 8-9, under the section Claim 1, the Applicant argues, "Adams does not disclose or suggest masking a DMA request to **prevent** (emphasis by Applicant) data corruption, but to **cause** (emphasis by Applicant) data corruption to identify a faulty floppy diskette controller." The Examiner respectfully disagrees. The Applicant claims a method that when performed prevents data corruption. Adams discloses a method that is used to detect faulty floppy diskette controllers. A faulty floppy diskette controller causes data corruption, therefore, detecting one prevents data corruption. Contrary to Applicant's belief, the sole purpose of Adams method is to find faulty floppy diskette

controllers and ultimately prevent data corruption (see Adams: column 1, lines 21-30 and the remainder of the background).

9. On pages 9-10, under the section Claim 15, the Applicant argues, "Adams does not disclose ignoring a DMA request line, Adams discloses delaying a DMA transfer. As discussed above, this is done to cause data corruption, thereby identifying a faulty floppy diskette controller. Applicants respectfully disagree that this **delaying** (emphasis by Applicant) of a DMA transfer discloses or suggests **ignoring** (emphasis by Applicant) at least one DMA request line." The Examiner respectfully disagrees. When the DMA transfer is being delayed, it is being ignored. If it isn't being processed, then the system is ignoring it. The Examiner suggests either including the allowable subject matter indicated in dependent claims16 and 24-27 into the independent claim or better defining what is meant by "ignoring".

10. Applicant's arguments, with respect to claim 28 have been fully considered and are persuasive. The rejection of claims 28 and 29 has been withdrawn.

11. The Applicant's arguments on page 12, under the section Claim 33, have been addressed in paragraph 6 above.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C Maskulinski whose telephone number is (703) 308-6674. After October 15, 2004, the examiner can be reached at telephone number: (571) 272-3649. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert W Beausoliel can be reached on (703) 305-9713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MM

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